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ABSTRACT

This lesson combines two significant art forms into one lesson. Students first learn the techniques necessary to create a relief sculpture terra cotta clay mold. Using that mold, students will experience the art of paper making and paper casting simply, safely, and economically. A brief history of the art of paper making is provided, along with samples and examples to show how the completed work will appear. Step-by-step instructions are included, along with a glossary of terms, lesson goals and objectives; background and preparation information, supply and equipment list, alternative suggestions, and additional ideas. (EH)

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# Creating Cast Paper Sculpture:
# A Simple Lesson in Papermaking and Moldmaking.
# Amaco Lesson #9.

**Harriet Gamble**

**David Gamble**

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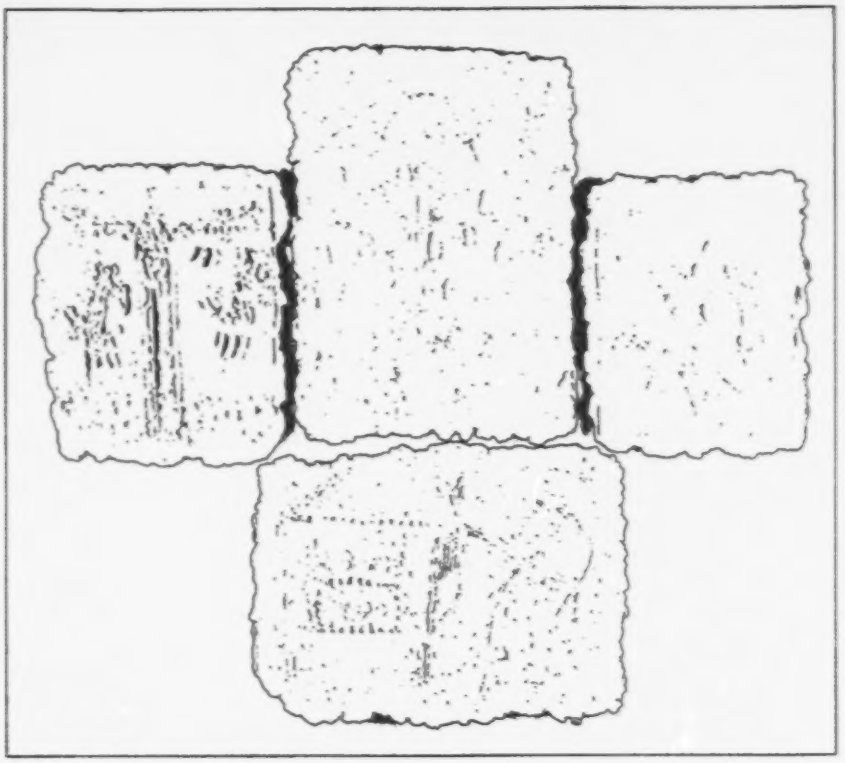

AMACO®

## Lesson #9

# Creating Cast Paper Sculpture
# A Simple Lesson
# In Papermaking and Moldmaking

The creation of paper was first developed in China around 150 B.C with a simple process of macerating vegetable fibers, floating them in water, collecting the pulp on a screen, and letting it dry to form a surface suitable for writing with a brush or printing. The art of papermaking — choices of fibers, methods of production, and resulting papers — was studied intensely, and the craft traveled to Japan and then west along the trade routes to the Mediterranean and on to Europe and the New World. New fibers were constantly being tested, and in Egypt, cotton (mostly in the form of new cloth or rags), was added to list of usable fibers. Cotton fibers produced papers that were perfect for existing writing tools like quill pens and styluses... papers that were crisp and opaque. As time passed and the demand for paper grew, fine, handmade cotton paper was replaced by paper made by machines from whole trees. A limited number of hand mills still exist today to create the custom papers needed by artists, and many contemporary artists have chosen to produce two- and three-dimensional images from paper pulp. Some of these artists incorporate found objects, glitter, color and a variety of materials into their creations. Paper is a medium that incorporates old traditions with exciting new forms. Creating cast paper sculptures using Handcast Cotton Paper from AMACO's Cotton Press™, combines two significant art forms in one lesson. Students will first learn all the techniques necessary to create a relief sculpture terra cotta clay mold. Then, using that mold, students will experience the art of papermaking and paper casting simply, safely, and economically. The possibilities for creative exploration and for learning a unique artistic technique are boundless.

## Lesson goals and objectives:

1. Students will first design and create terra cotta clay molds, and then using these molds, produce handcast paper sculptures using Handcast Cotton Paper from Cotton Press™.

2. The lesson will incorporate art history, aesthetics, and criticism with a hands on activity.

3. The lesson will focus on important design elements and a variety of technical skills essential to moldmaking, relief sculpture, papermaking, and cast paper, as well as creative self-expression.

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## Background and Preparation:

1. This project has been designed for high school students, but can be used with middle school students as well. With some simplification, the lesson could be adapted to elementary students.

2. The art teacher should introduce an historical overview of papermaking, focusing on its early history and technical advancements. Students should understand that paper can be both utilitarian and artistic. Fine handmade papers are used by calligraphers, water colorists, printmakers, and a variety of other artists. Papermaking and cast paper sculpture are media that have been chosen by many contemporary artists for their broad technical possibilities and unlimited creative expression. Show students examples of contemporary artistic papermaking.

3. An overview of various types of sculpture should also be presented with an emphasis on relief sculpture. Relief sculpture is meant to be viewed from one side only. It is three-dimensional because it has depth, but does not occupy space independently. Most often, relief sculpture decorates walls or other architectural forms. There are two types of relief sculpture, low relief (called bas-relief from the French) and high relief (haut-relief, in French). A low relief projects very slightly from the surface, like images on a coin. High relief sculptures project boldly from the background. Examples of famous relief sculptures are the walls of Egyptian tombs and Lorenzo Ghiberti's famous bronze doors for the Baptistry of the Florence Cathedral.

4. The class should discuss moldmaking and both its artistic and functional applications. Basic techniques for carving molds should be presented, with an emphasis on the need to work in reverse.

5. All products used in this lesson are AP-Nontoxic and are safe to use by all students. AMACO® Indian Red Clay No. 67M and all Cotton Press™ supplies are AP-Nontoxic.

6. Because Cotton Press™ is AP-Nontoxic and completely safe to use, all equipment used (blender, sponges, knives, etc.) can be washed with soap and water and reused in the kitchen.

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## Glossary of Terms:

**Beating** — the physical or mechanical process that softens the fibers.

**Cast** — in sculpture, to duplicate an original design by means of a mold.

**Cellulose** — the most plentiful carbohydrate produced by plants. Paper is made from cellulose fiber.

**Fiber** — in paper making, the slender, thread-like cellulose structure that coheres with others to form a sheet

**Incise** — to carve

**Linter** — a general term for preprocessed pulp that can be purchased in either sheet or chip form. Cotton is one type of linter.

**Macerate** — to break down solid matter; to soften by soaking in water

**Mold** — a shape in which a fluid substance is given form

**Pulp** — a general a term for the substance that paper is made from; beaten

**Relief** — carving, molding, modeling, or stamping in which the design projects from the background surface. The degree that the relief projects from the surface can vary. A bas-relief (low relief) does not project very far, like the surface of a coin. A haut-relief (high relief) projects more boldly from the surface, giving the relief a much more sculptural or three-dimensional appearance.

**Sculpture** — a work of art that is meant to be viewed from more than one side; a work of art that is three-dimensional.

**Terra Cotta** — literally translates from Italian to mean baked earth; a type of clay that is usually reddish brown.

## Supplies:

Paper and pencils for sketching
AMACO® Indian Red Clay No. 67M (Catalog #45131A) — 50 lbs. allow 1-2 lbs. per student
Assorted AMACO® Hardwood Modeling Tools
Cotton Press™ Bulk Cotton and Additive (Catalog #95038W)
Cotton Press™ Mold Release (Catalog #95070N)
Teaspoon for measuring Additive
Large sponges
Cotton Press™ Mold Release
Mat Board
White glue

## Additional Supplies:

Assorted supplies for embellishing cast paper sculpture: water colors, glitter, feathers, and any other found objects
Hot glue gun
AP-Nontoxic acrylic paints

## Equipment:

Blender
Strainer
AMACO® Slab Roller or rolling pins
AMACO® kiln
Oven, toaster oven, microwave, or hair dryer (optional)
Bucket for excess water

## Instructions:

1. Students should create an image on paper. The image can be realistic (miniature guitar, umbrella, flower, etc.) or abstract (geometric designs). Size should be dictated by teacher and/or kiln requirements. Urge students to work in detail. Creating a terra cotta mold for cast paper sculpture is similar to carving a linoleum block for printing — the more detail, the more interesting the finished piece.

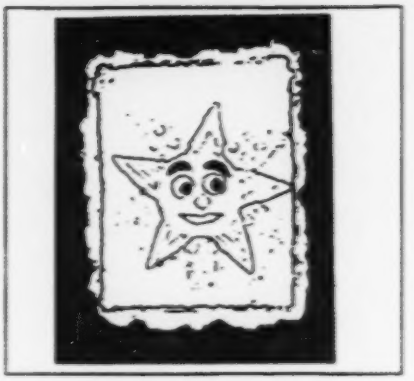
2. Roll out a slab of terra cotta clay to approximately 3/4" in thickness. The slab should be cut to a square or rectangle size large enough to accommodate the student's design. Because the student is creating the mold, he or she is not limited to specific dimensions and can manipulate shape.

3. Using a variety of clay carving and incising tools, students should carve out their designs into the wet clay slab. The deeper they carve the more dimension their finished cast paper sculpture will have. However, be sure students do not carve more than 1/2" into the 3/4" slab. If the mold is too thin, it will crack or break in drying or firing.

4. Instruct students to duplicate the detail of their drawings into the clay mold. Be careful of undercuts. They will make removing the paper from the mold difficult.

5. Allow molds to dry thoroughly. To keep them very flat, place molds between pieces of sheet rock (wall board). Sheet rock contains plaster which absorbs moisture and allows wet clay to dry evenly. The pieces of sheet rock can be additionally weighted to assure that the molds dry flat. It is recommended that carving be done in one day (while the clay is wet). If more time is required, be sure students cover their molds carefully and completely in plastic. If molds become leather hard, do not use sheet rock or weight them as they may crack.

6. After molds are thoroughly dry, bisque fire to cone 05.



7. Fired molds are now ready to use to create cast paper sculptures.

8. In a blender, soak one cotton linter sheet of Handcast Cotton Paper in one quart of cold water for two minutes.

9. Add one rounded teaspoon of Additive and mix on high for one minute.

10. Pour off 1/3 of the water into a strainer held over a bucket or a sink. Leave just enough water in the pulp for the cotton to float.

11. Spray mold with Cotton Press™ Mold Release or vegetable oil spray. If vegetable oil spray is used, be sure to wash mold thoroughly after each use as the spray will yellow.

12. Pour enough pulp mixture into the mold until it is covered.

13. Spread the cotton pulp over the mold. A table knife or small spatula is helpful. Let the cotton pulp flow to the edge of the mold to create a lacy fringed edge. This edge is an important aspect to the beauty of handcast paper art.

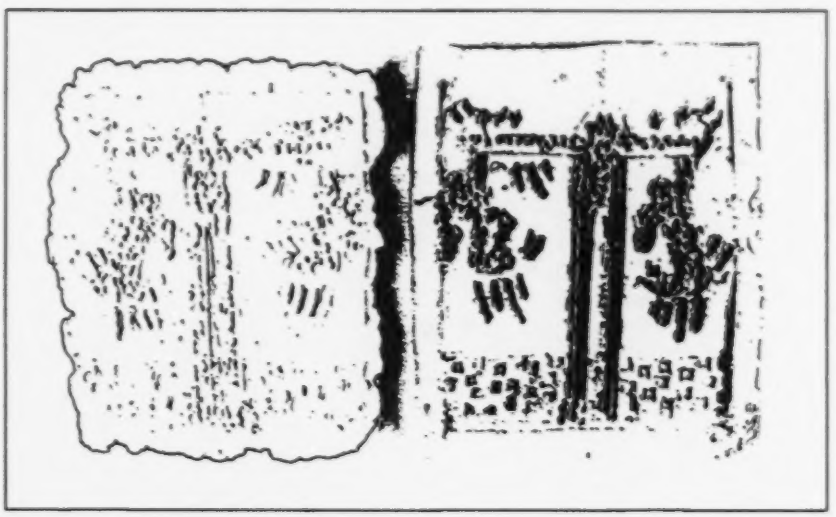
14. Use a sponge to remove excess water. Press the sponge firmly with fingertips over the pulp paying particular attention to the details of the mold. Remove as much water as possible with the final pressing of the sponge.

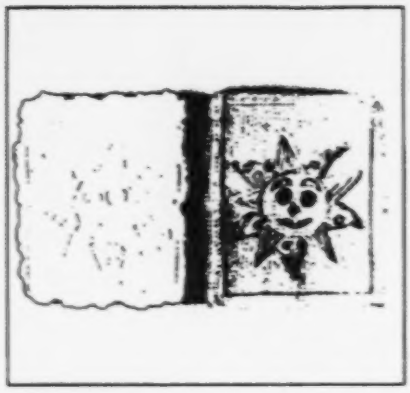
15. Let paper dry thoroughly. Depending on size, an oven, toaster oven, microwave, or hair dryer can be used to speed the process. Paper can air dry or dry in the sun. If an oven is used the temperature should be set at 300°F; toaster oven at 225°F; and a microwave at medium heat for 2 minutes. Remember to use kiln gloves or oven mitts, as the mold will be hot.

16. When completely dry, slide a knife under edge of paper and gently remove from the mold.

17. Handcast paper sculptures can be painted with water colors, decorated with felt pens, embellished or accented with a variety of found objects, or left unadorned.

18. Have students affix their cast paper art to mat board for display. Use a white glue.





## Alternative Suggestions:

1. For younger students, or if carving a mold is not feasible, a mold can be made by using very soft, wet clay slabs and making impressions in the clay. Leaves, flowers, hand prints, and other objects can be used to press in the clay.

2. Pulp can be colored using any AP-Nontoxic acrylic paint. Food coloring will not bind to the cotton. Add a few drops of acrylic at a time to the blender until desired color is reached.

3. If water colors or felt pens are to be used, be sure paper is thoroughly dry. It is recommended that paper be sprayed with a spray sealant, such as a clear acrylic. This will prevent the color from absorbing too quickly or from spreading beyond the areas intended. Chalk or pastels give a soft color to cast paper sculpture; and powdered eye shadow and blush work well.

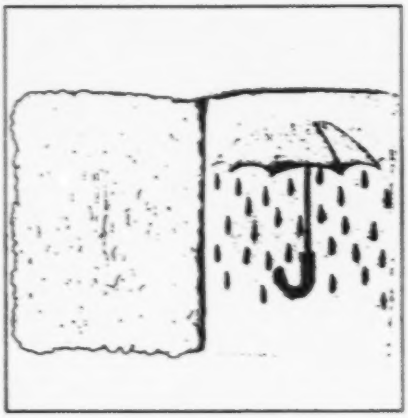
4. Handcast Cotton Paper is completely recyclable. Unused pulp can be stored in a covered container in the refrigerator for up to two weeks. If a project is damaged or unacceptable to the artist, it can be put back in the blender with a small amount of water and blended into pulp again.

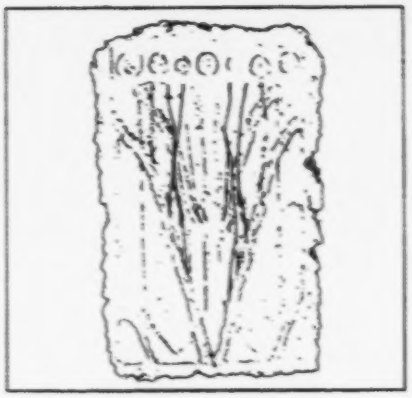
## Additional Ideas:

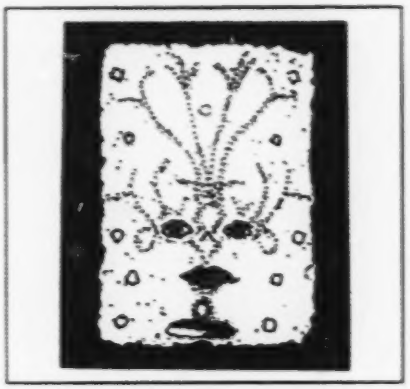
1. Smaller molds can be made to create Christmas ornaments (angels, Santa Claus, wreaths, soldiers, miniature trees, etc.), holiday or specialty greeting cards, and gifts.

2. Hanging Christmas ornaments make excellent fundraisers for art clubs.

3. For young students, matted and framed hand prints make special gifts for parents. When making mold, be sure the clay is moist yet firm and the hands are clean and dry so they make a clear impression and release easily.







Examples of cast paper sculptures are by art students from Plainfield High School, Plainfield, Indiana, Laurie Briggs, art teacher.

This is one lesson in a series of art plans for elementary and secondary programs using American Art Clay Co., Inc. products. Successful lessons will be considered for future publication. Send your ideas and slides to David Gamble, National Marketing Director, American Art Clay Co, Inc.

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